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L42: Entry 232 of 234

File: DWPI

Jan 13, 1988

DERWENT-ACC-NO: 1988-008291

DERWENT-WEEK: 198802

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TITLE: Laser machining monitor - with optical system measuring principal parameters of the operation

INVENTOR: JUPTNER, W; ROTHE, R ; SEPOLD, G

PATENT-ASSIGNEE:

ASSIGNEE

CODE

BIAS FORSCH ENTWICK

BIASN

BIAS FORSCHUNGSWICK

BIASN

PRIORITY-DATA: 1986DE-3623409 (July 11, 1986)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 252268 A	January 13, 1988	G	014	
DE 3623409 A	January 21, 1988		000	
DE 3777702 G	April 30, 1992		000	
EP 252268 B	March 25, 1992		017	
JP 63030191 A	February 8, 1988		000	
US 4772772 A	September 20, 1988		013	

DESIGNATED-STATES: BE DE ES FR GB IT NL SE BE DE FR GB IT NL SE

CITED-DOCUMENTS: 1.Jnl.Ref; A3...8905 ; CH 656568 ; DE 2914216 ; EP 156231 ; EP 168351 ; No-SR.Pub

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 252268A	May 27, 1987	1987EP-0107712	
DE 3623409A	July 11, 1986	1986DE-3623409	
DE 3777702G	July 11, 1986	1986DE-3623409	
EP 252268B	May 27, 1987	1987EP-0107712	
JP63030191A	July 9, 1987	1987JP-0169932	
US 4772772A	July 1, 1987	1987US-0068302	

INT-CL (IPC): B23K 26/02; G01J 1/42

ABSTRACTED-PUB-NO: EP 252268A

BASIC-ABSTRACT:

A machining operation with a high-energy source, esp. a laser, for cutting, welding or surface treatment, uses an optical system to deflect and focus the beam. This optical system is so designed that its components are also used for a measurement of the principal parameters of the operation e.g. power input, diameter and position of the beam or of the reflected rays, and the degree of soiling of the mirrors.

ADVANTAGE - This gives reliable indications of the factors responsible for the quality of the machining operation. /11

ABSTRACTED-PUB-NO:

DE 3777702G

EQUIVALENT-ABSTRACTS:

A machining operation with a high-energy source, esp. a laser, for cutting, welding or surface treatment, uses an optical system to deflect and focus the beam. This optical system is so designed that its components are also used for a measurement of the principal parameters of the operation e.g. power input, diameter and position of the beam or of the reflected rays, and the degree of

EP 252268B

Process for the supervision of the machining process of a laser (20), in which a laser beam serving for material machining (cutting, welding, surface finishing) is conducted through a machining optical system (25) and during the machining of a material at least one governing beam parameter is measured at the machining optical system (25), characterised in that to determine the power of the laser beam the temperature gradient of at least one mirror (deflecting mirror 26; focusing mirror 27) is determined along a defined measurement path with a defined cross-section.

(17pp)

US 4772772A

Machining operation of a high-power laser, i.e. CO2 laser is monitored in a machining optical system (25), which deflects the beam twice, by a deflecting mirror (26) turning the beam from a vertical to a horizontal position and a mirror (27) turning the beam into an exit direction. The position of the beam w.r.t. the optical axis, the beam dia., degree of contamination of the mirrors and radiation reflected from the workpiece are measured by detectors, consisting of thermal resistances (39,40) and detectors (52,59,61) on which partial regions of the beam are reflected by reflecting surfaces (36,37). ADVANTAGE - Simple and reliable method of determining the quality of machining.

(13pp)

TITLE-TERMS: LASER MACHINING MONITOR OPTICAL SYSTEM MEASURE PRINCIPAL PARAMETER OPERATE

DERWENT-CLASS: M23 P55 X24

CPI-CODES: M23-D05; M23-G;

EPI-CODES: X24-D03;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1988-003629

Non-CPI Secondary Accession Numbers: N1988-005911

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L42: Entry 222 of 234

File: DWPI

Nov 10, 1998

DERWENT-ACC-NO: 1999-039200

DERWENT-WEEK: 199904

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TITLE: Laser welding machine with facility to monitor welding process - has controller which outputs command for reprocessing based on detection of optical sensor

PATENT-ASSIGNEE:

ASSIGNEE

CODE

AMADA CO LTD

AMAC

PRIORITY-DATA: 1997JP-0106008 (April 23, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 10296465 A	November 10, 1998		004	B23K026/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP10296465A	April 23, 1997	1997JP-0106008	

INT-CL (IPC): B23 K 26/00; B23 K 26/02

ABSTRACTED-PUB-NO: JP10296465A

BASIC-ABSTRACT:

The laser welding machine (1) performs butt welding of sheet metal workpieces (W). The optical sensors (10) such as photo diode for detecting reflected light from workpiece surface is provided in a nozzle (4) of the laser beam process head (2). The detected light is guided to the controller. The output is compared with predetermined threshold value. The controller gives command for reprocessing.

ADVANTAGE - Detects poor welding at early stages. Reduces synthetic cost. Improves throughput.

CHOSEN-DRAWING: Dwg.1/3

TITLE-TERMS: LASER WELD MACHINE FACILITY MONITOR WELD PROCESS CONTROL OUTPUT COMMAND REPROCESSING  
BASED DETECT OPTICAL SENSE

DERWENT-CLASS: M23 P55 S03 X24 X25

CPI-CODES: M23-D05;

EPI-CODES: S03-E04B; S03-E04F2; X24-D03A; X25-A03E1;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-012026

Non-CPI Secondary Accession Numbers: N1999-029633

DATE: Monday, September 16, 2002

**Set Name Query**  
side by side**Hit Count Set Name**  
result set

DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ

L19	L18 and (intermittent or periodic or cycle or cyclic or discontinuous) near (suspend or suspension or analysis or data)	9	L19
L18	L17 and (intermittent or periodic or cycle or cyclic or discontinuous)	62	L18
L17	l11 and l16	70	L17
L16	L15 and window	138	L16
L15	L14 and (sensor or sense or detector or detect) near (array or linear or areal or arrangement or multiple or plural)	250	L15
L14	L13 and resolution	364	L14
L13	L10 and (simultaneous)	510	L13
L12	L10 and (area or zone) near (simultaneous)	0	L12
L11	L10 and zone	482	L11
L10	L9 and (zone or area)	1727	L10
L9	L8 and (map or distance or height)	2045	L9
L8	L7 and (single or "same") near (detect or detector or detection or sense or sensor or optic or mirror)	2488	L8
L7	L6 and (reflect or reflected or reflection) near (light or radiation)	18771	L7
L6	laser and (monitor or detect or detector or sense or sensor or measure) near (light or radiation or optic or optical or photo)	46494	L6
L5	l2 not l3	1	L5
L4	l2 and (detect or detector or sense or sensor) near (linear or array or multiple or plural or plurality or arrange or arrangement)	4	L4
L3	L2 and (intermittent or window or resolution or zone or area)	11	L3
L2	L1 and (detect or detector or sense or sensor or measure) near (reflect or light or radiation or photo or optic or optical)	12	L2
L1	5486677 or 5373135 or 5869805	32	L1

END OF SEARCH HISTORY